Building Technology III
New York City College of Technology

Autocad 2014 : Lesson 02
Zoning Studies
3D Modeling and using Flatshot

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http://professorpaulking.wordpress.com/

http://students.autodesk.com/

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Lesson 02

Zoning Sheets
- Assignment
- Sample 1
- Sample 2
- Sample 3
- Sample 4

Autocad
3D Modeling
- Extrude 2D to 3D
- Standard 3D Views
- Vpoint 1,2,3
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FLATSHOT
- 3D to 2D dwgs
- Insert & Rename
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2D ISOMETRIC
- Grid and Snap Settings

Wrap up

Assignment

NEW YORK CITY COLLEGE OF TECHNOLOGY
THE CITY UNIVERSITY OF NEW YORK

DEPARTMENT OF ARCHITECTURAL TECHNOLOGY

ARCH 2330 **BUILDING TECHNOLOGY III**

Assignment Name: **Site Plan & Zoning Diagram**

Computer Program(s): **AutoCAD,** Revit, Web Browser and Blackboard

Student Learning Objectives:
Upon successful completion of this assignment, the student will:
1. Develop an understanding of NYC zoning codes and be able to interpret for a specific location.
2. Construct scaled site plan showing block and lot site and format on Titleblock.
3. Construct scaled Isometric drawing showing zoning

Student Skills Learning Objectives: (AutoCAD)
Upon successful completion of this assignment, the student will:
1. Be able to draw an isometric line drawing using isometric grids
2. Be able to draw an isometric 3d model
3. Be able to add annotation and dimensions
4. Understand the use of Paperspace/Modelspace and External References
5. Under the use of layers, lineweights and linetypes
6. Understand the use of variables including LTscale & PSLtScale

Assessment:
To evaluate the student's achievement of the learning objectives, the professor will do the following:
1. Evaluate the student's site plan and zoning diagrams drawings.
2. Evaluate the students use of annotation including drawing titles, notes and dimensions.
3. Evaluate the student's understanding and correct interpretation of relevant zoning regulations.
4. Drawing will be evaluated on its own and as part of the AutoCAD drawing set submission.

Project Description:
Students will develop a zoning study for the project site incorporating factors including but not limited to OSR, FAR, Setbacks, Sky Exposure Plane, Street wall requirements, available bonuses, use/type, etc. Students will be required to read and identify NYC Zoning code and determine what is relevant to the project and will produce an accurate zoning sheet for their drawing set.

Process:
1. Locate Site using Oasisnyc.net
2. Locate all relevant zoning related resources at NYC.gov. Site all sources (ie. ZR 33-12.3)
3. Complete all necessary calculations.
4. Produce Zoning sheet including site plan (1:20 or 1:30), Isometric Zoning Diagrams, sections and notes.
5. Keep all relevant sections of the zoning code in your teams' project binder.
6. Post completed sheet as a pdf and as a drawing file by the assigned deadline & add description.

References:
1. NYC Zoning http://www.nyc.gov/html/dcp/html/subcats/zoning.shtml
2. Zoning Diagram Guide http://www.nyc.gov/html/dob/downloads/pdf/zd1_guide.pdf
3. Oasis NYC Maps http://oasisnyc.net/map.aspx

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2. Zoning Diagram Guide http://www.nyc.gov/html/dob/downloads/pdf/zd1_guide.pdf
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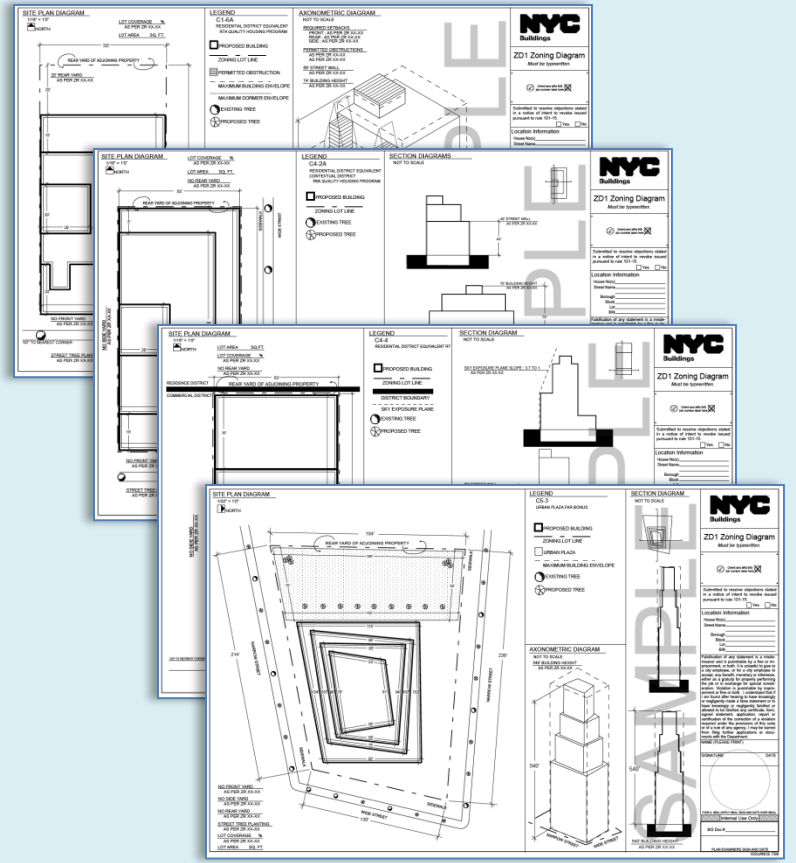

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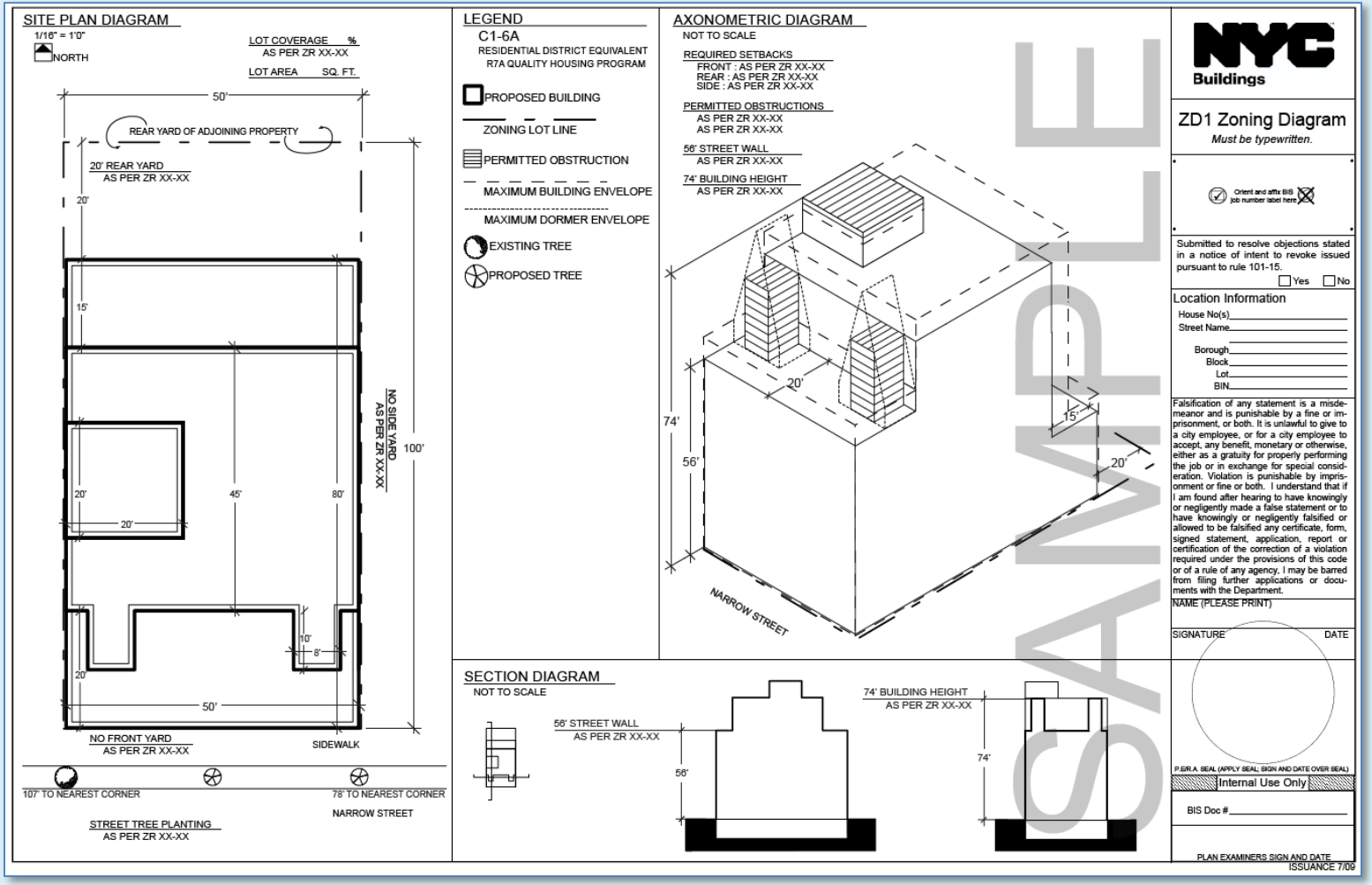

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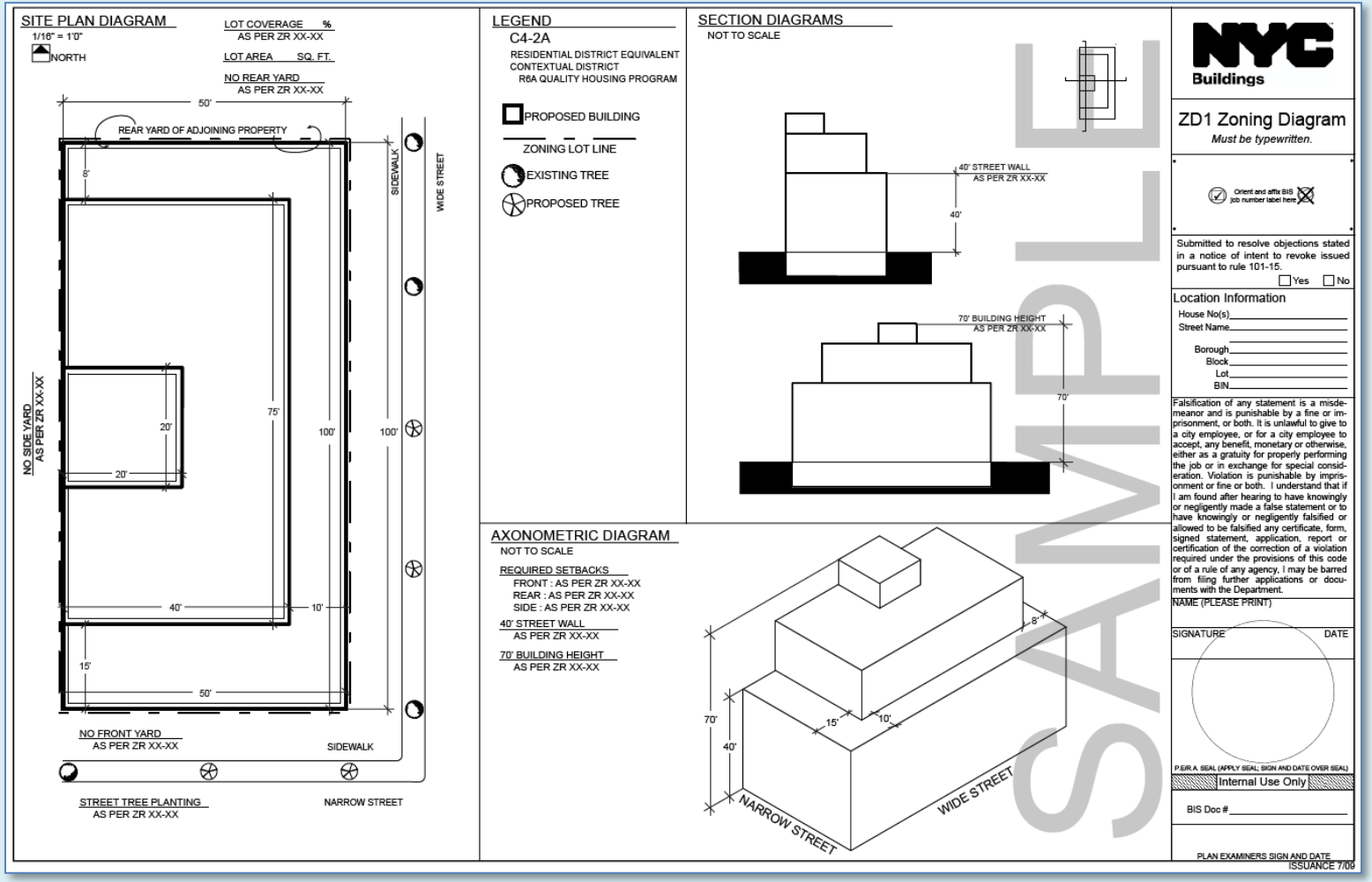

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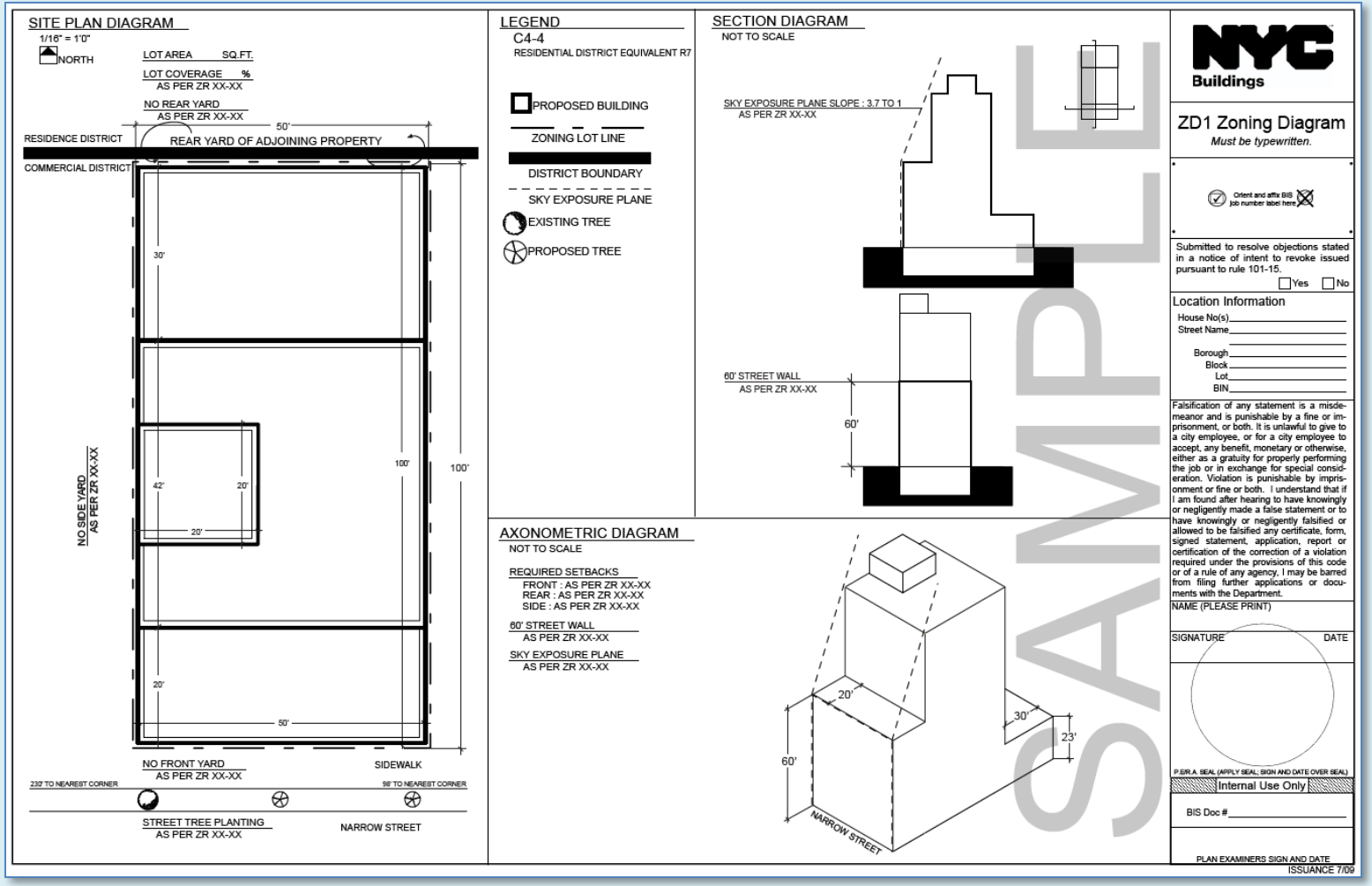

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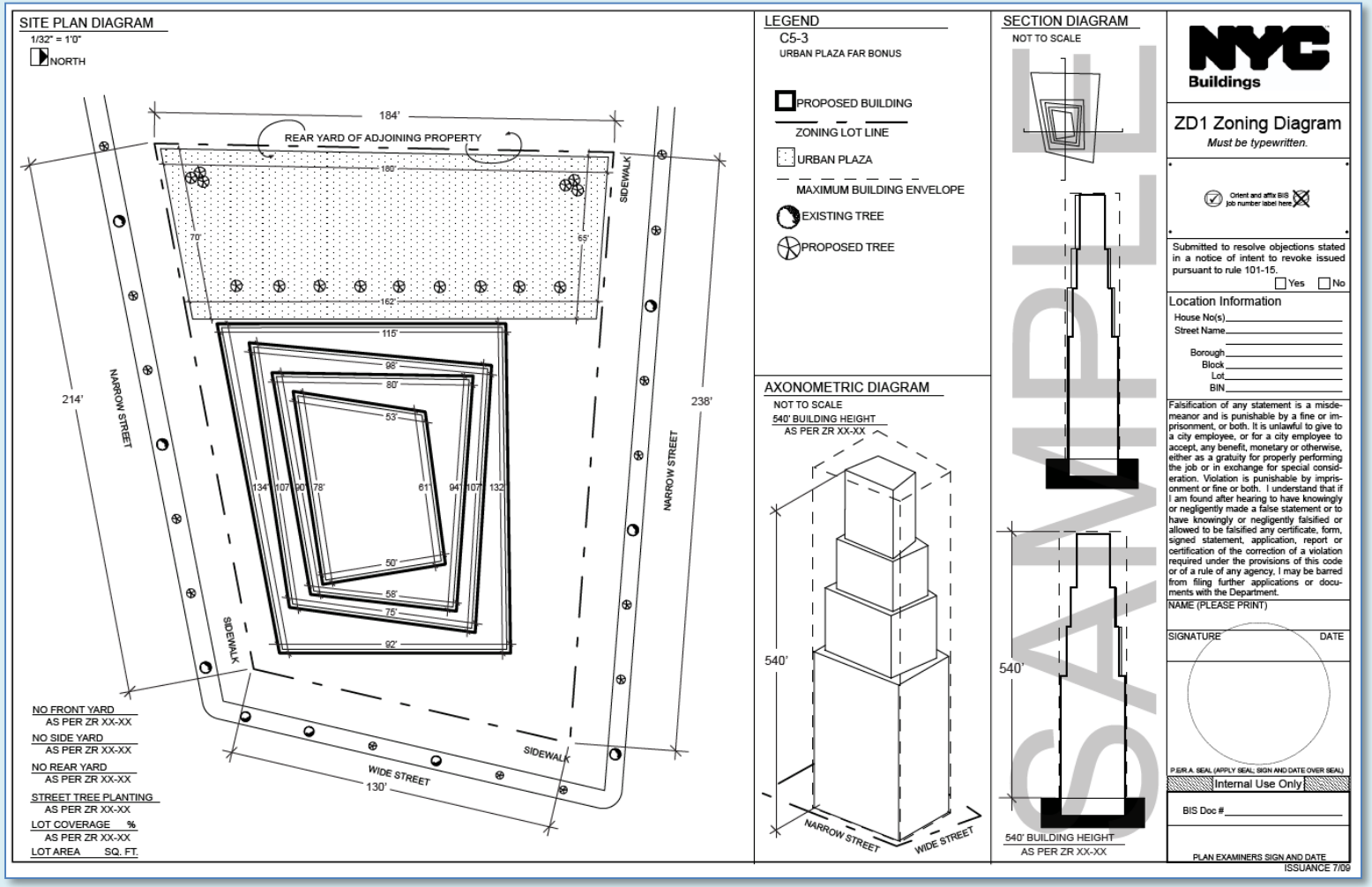

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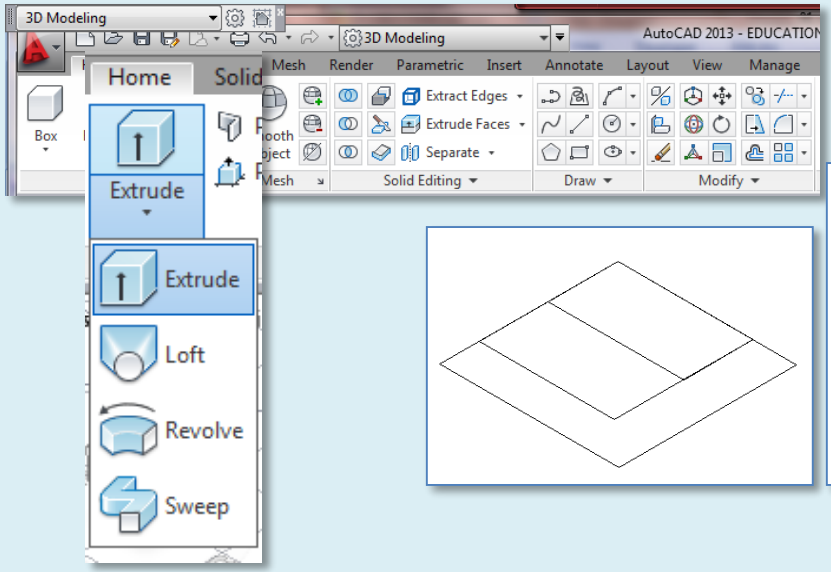
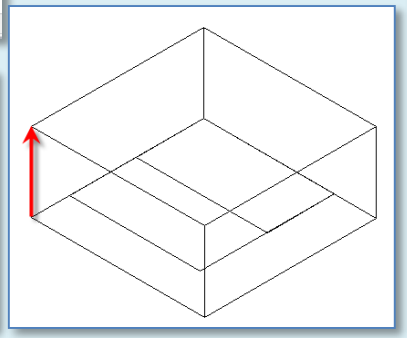
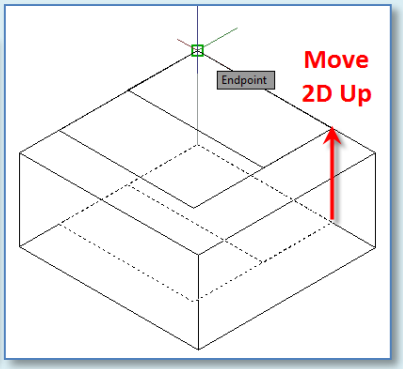
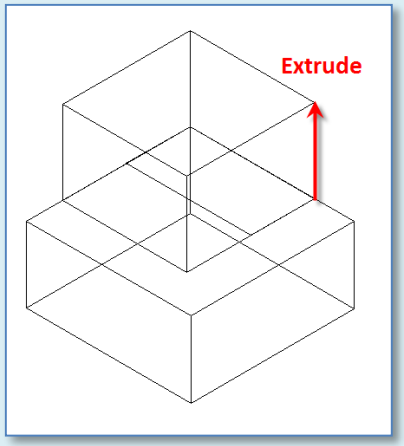
Extrude 2D Geometry to 3D Solids

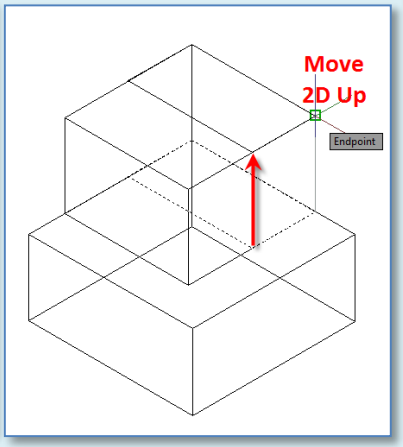


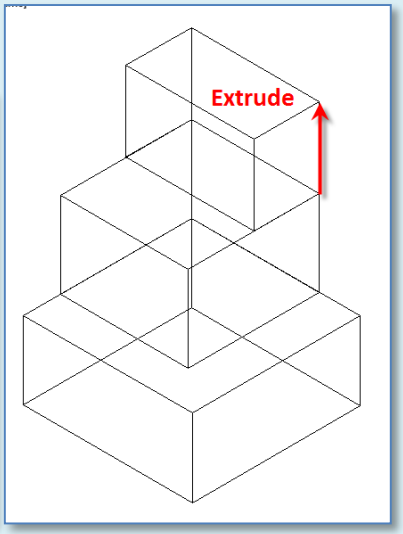




- **Draw 2D**
- **Extrude**
- **Move 2D Up**
- **Repeat Extrude**
- **Repeat Move**







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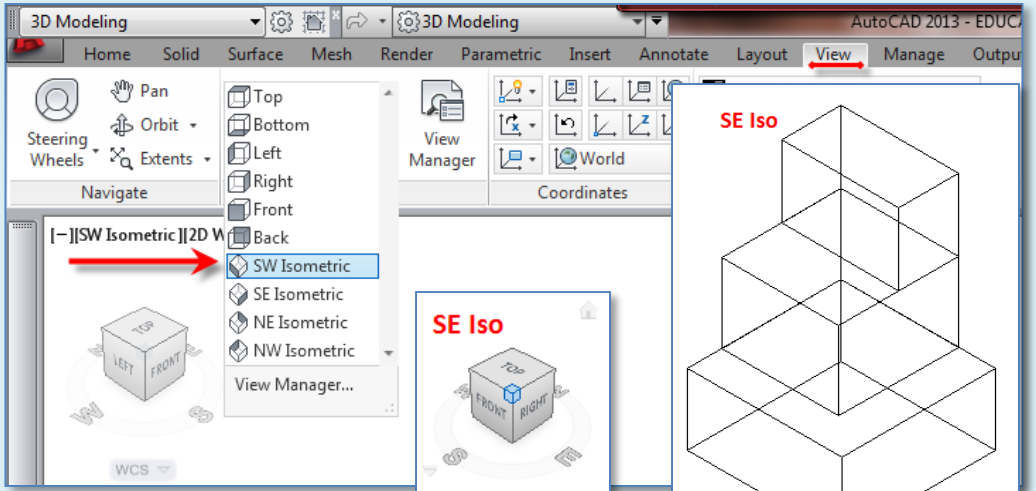
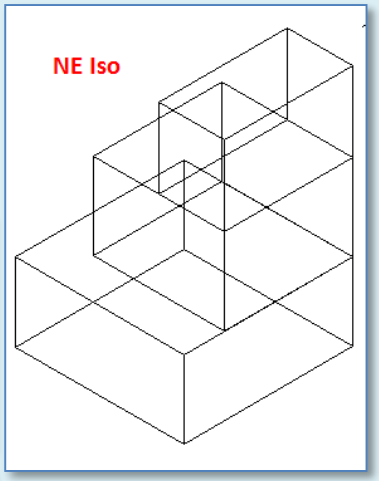
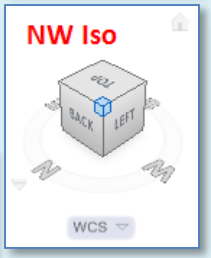
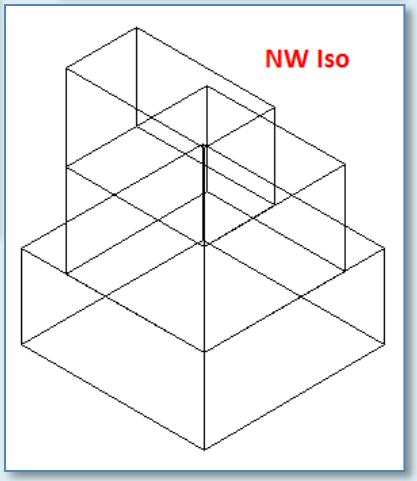
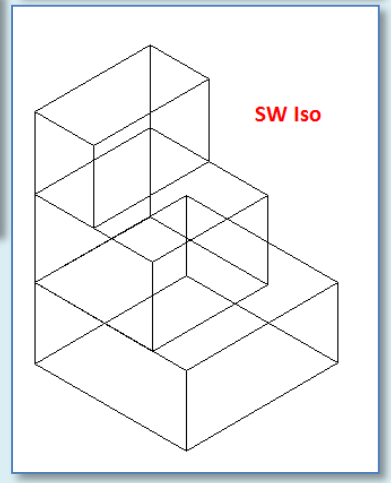
View Menu & Viewcube : Standard Isometric Views



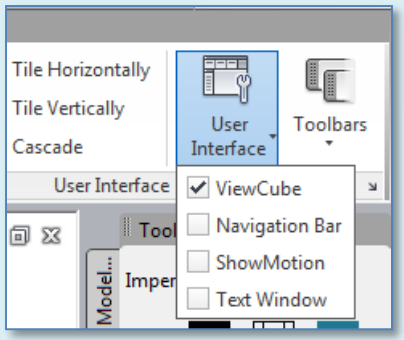








- **ViewCube**



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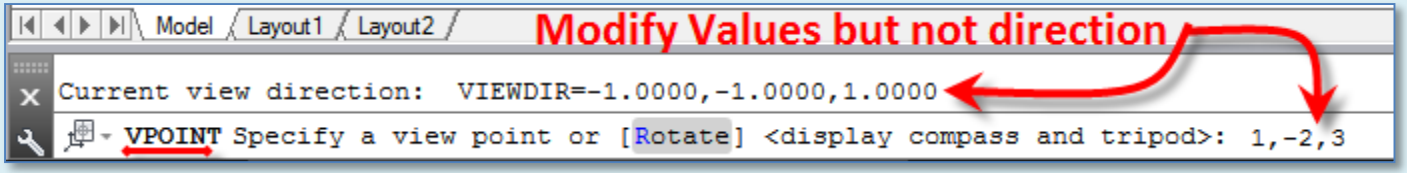
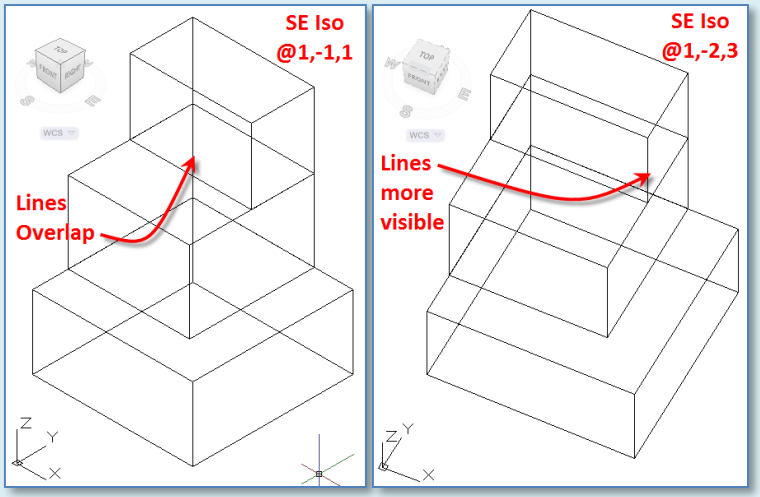
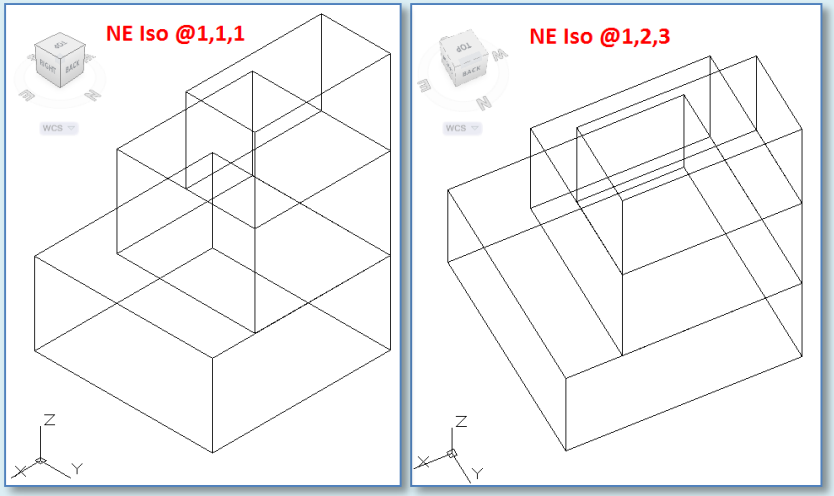
Vpoint Command 1,2,3 X,Y,Z



- **SE Isometric**
- **At the Command Prompt**
- **Vpoint <1,-1,1> 1,-2,3**





- **NE Isometric**
- **At the Command Prompt**
- **Vpoint <1,1,1> 1,2,3**

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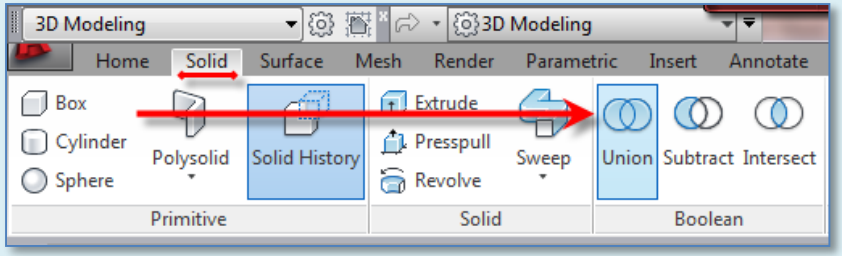
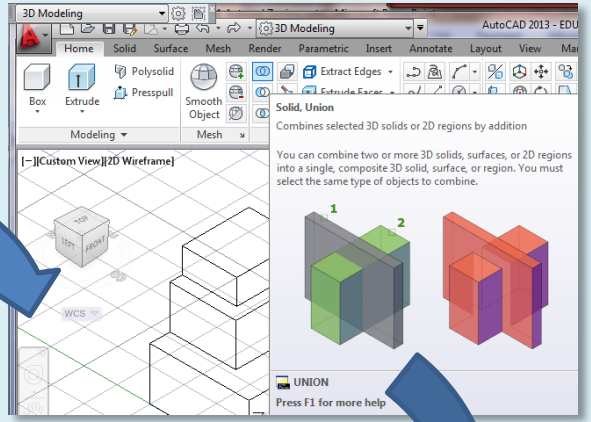
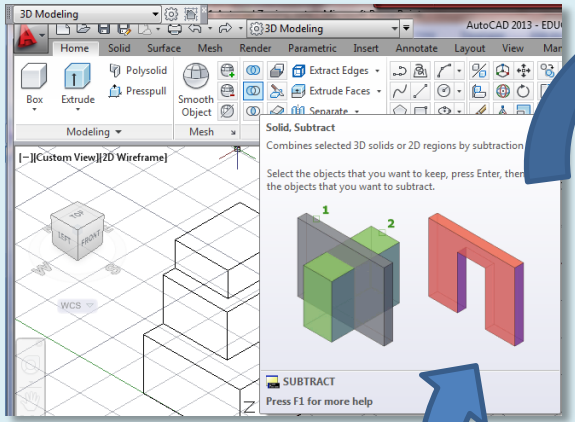
3D Solids & Boolean Operations : Overview

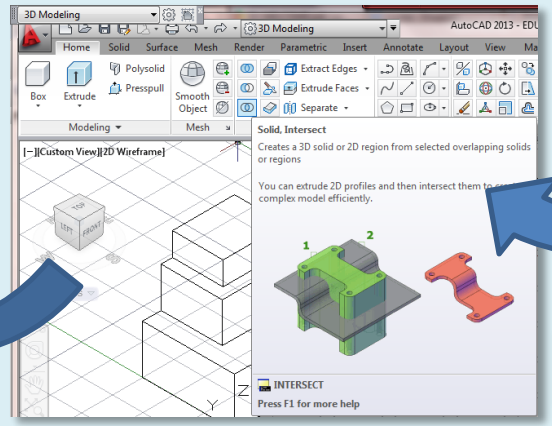


Union





Subtract



Intersect

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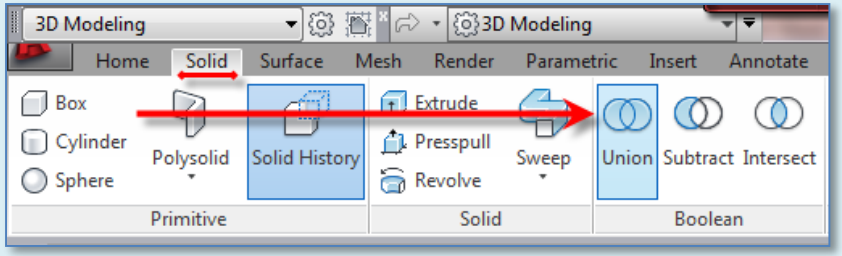
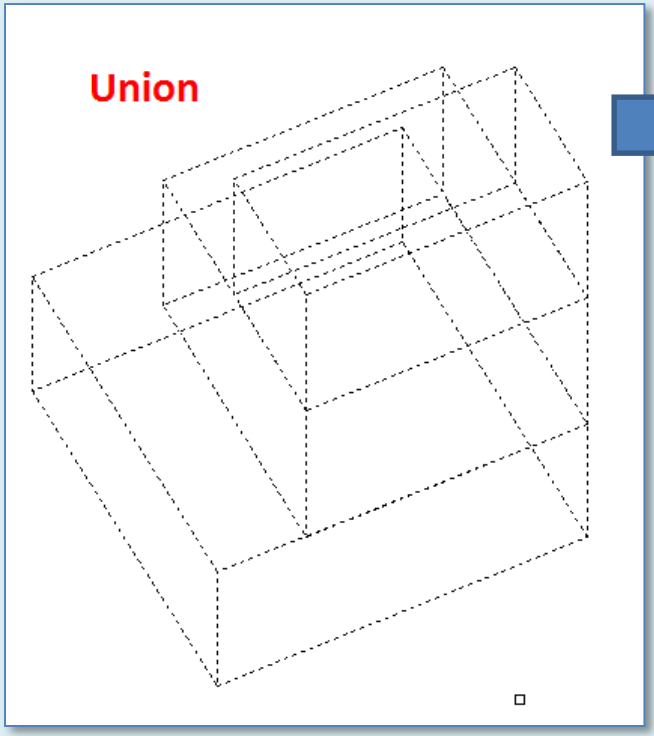
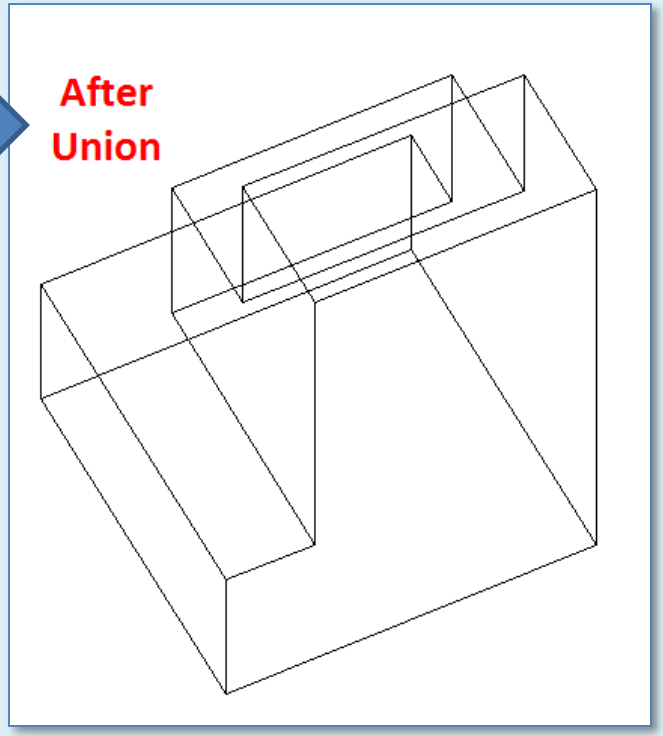
3D Solids & Boolean Operations : Union



- **Solid > Union**
- **Adjacent edges are gone**





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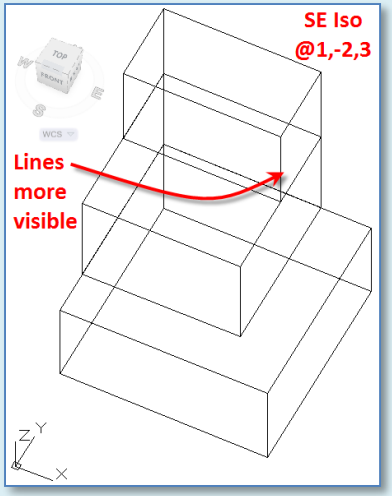
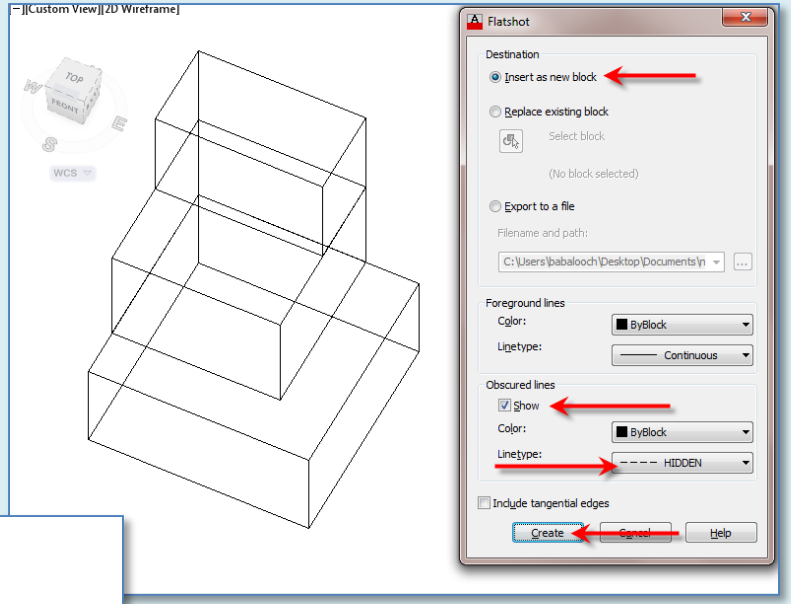
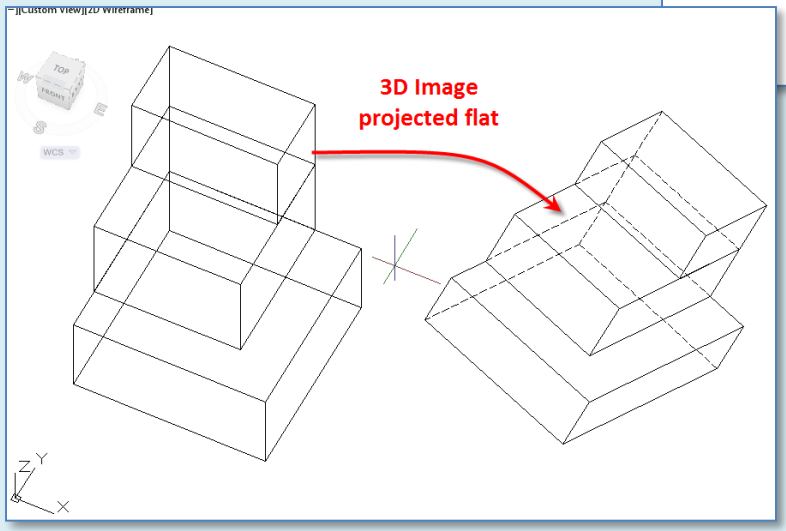
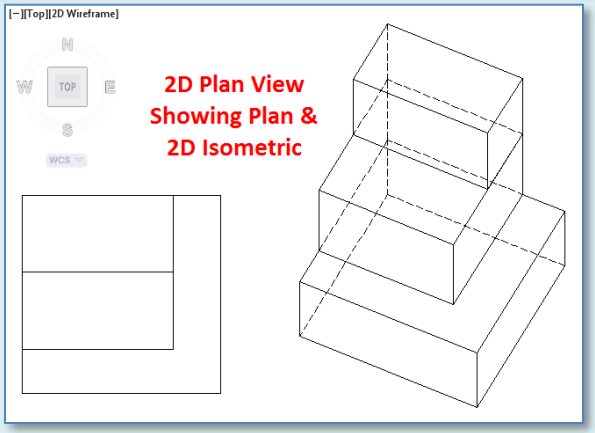
FlatShot : 3D Isometric to 2D Isometric Block



- **SE Isometric**
- **Vpoint 1,-2,3**
- **Flatshot**
- **Obscured Lines (Show)**
- **Linetype (Hidden)**
- **Create**







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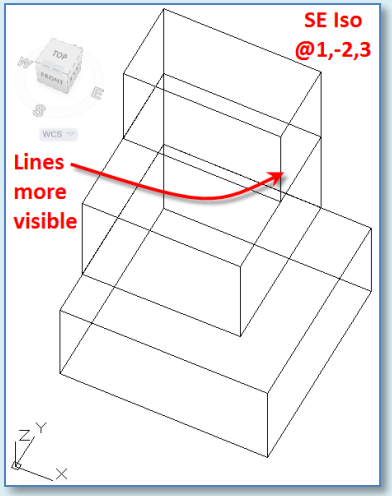
FlatShot : 3D Isometric to 2D Isometric Block



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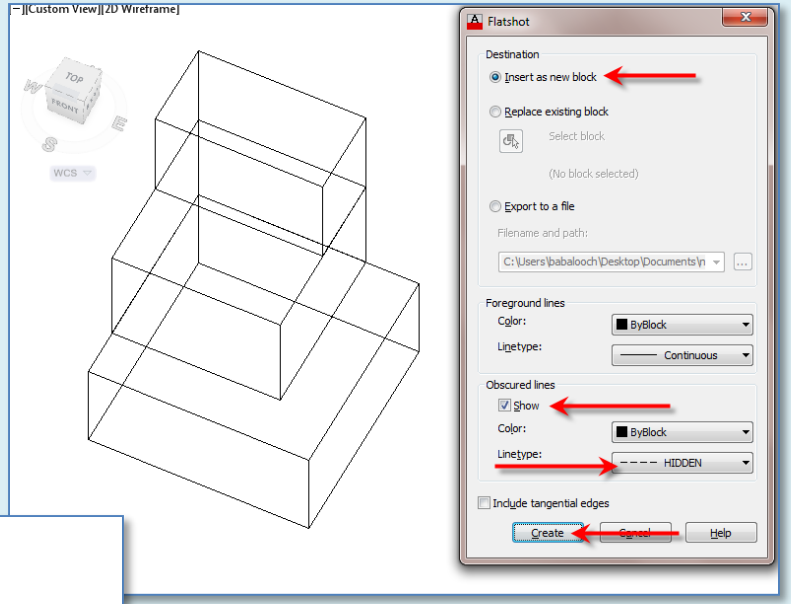

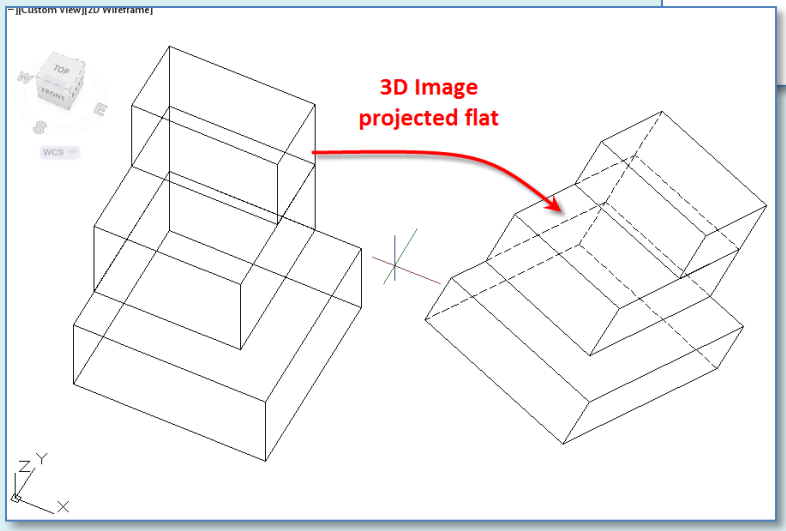

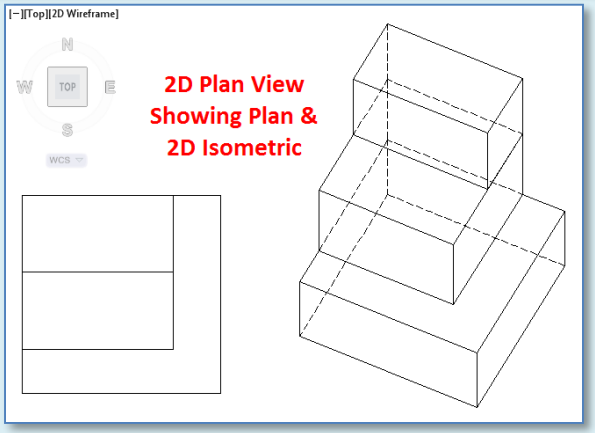

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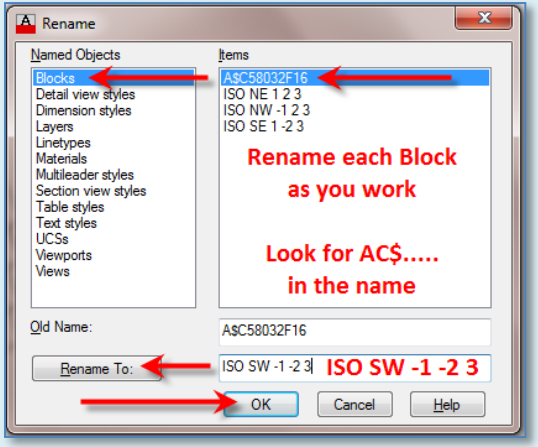
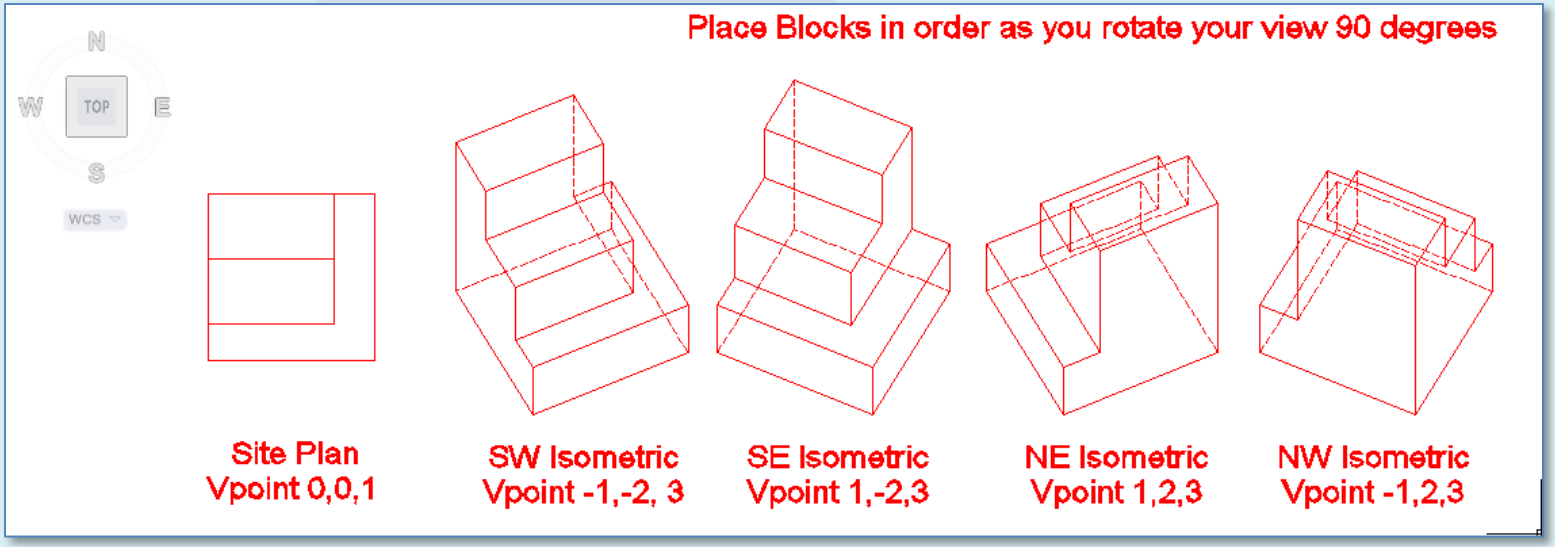
FlatShot : Insert and Rename Blocks



- **Plan View**
- **Insert each as you go**
- **Place them in order**
- **Rename that one at a time**



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Lesson 02

Zoning Sheets
- Assignment
- Sample 1
- Sample 2
- Sample 3
- Sample 4

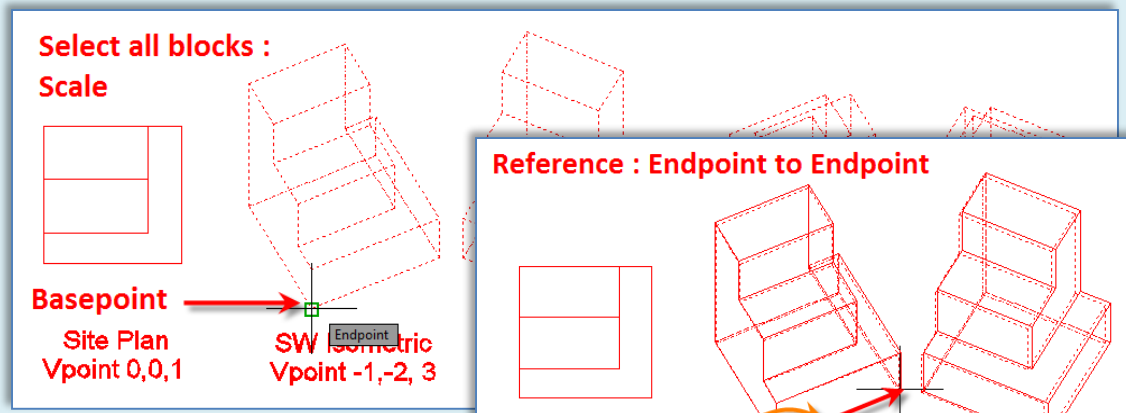
Autocad
3D Modeling
- Extrude 2D to 3D
- Standard 3D Views
- Vpoint 1,2,3
- Solids & Boolean Operations

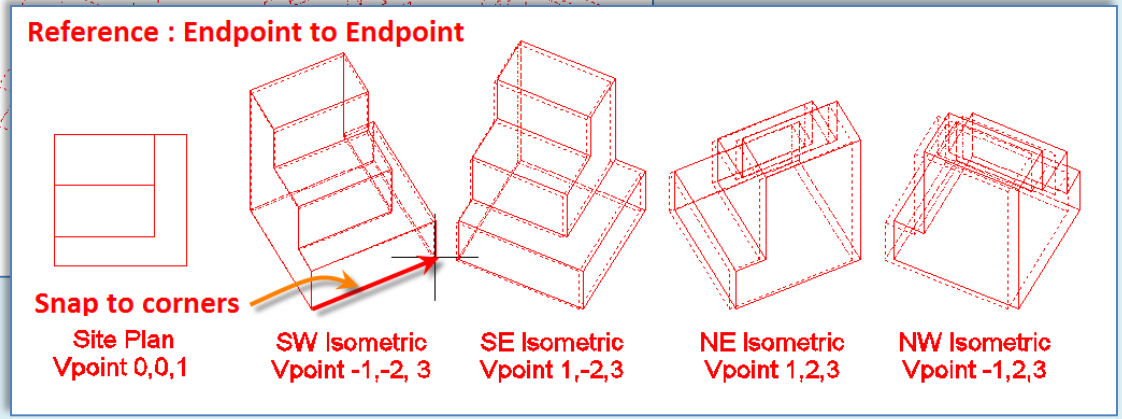
FLATSHOT
- 3D to 2D dwgs
- Insert & Rename
- Scale Blocks

2D ISOMETRIC
- Grid and Snap Settings

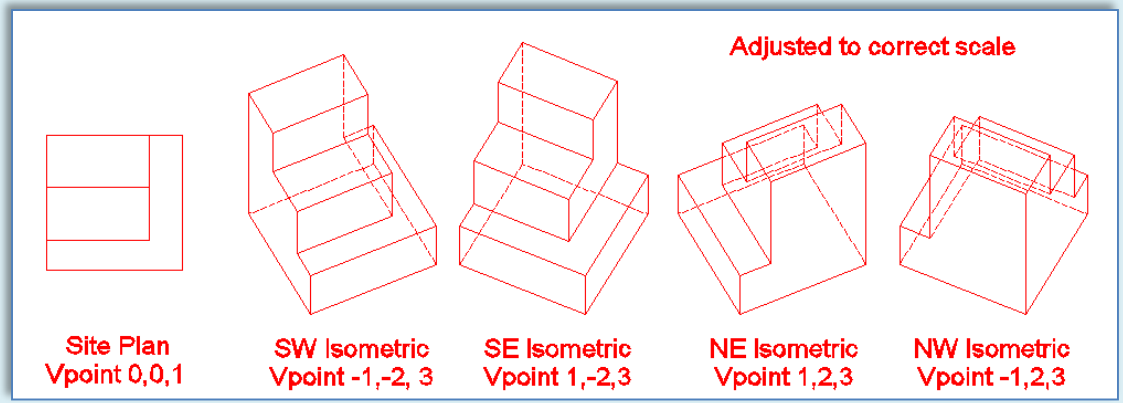
Wrap up

FlatShot : Scale Blocks





- Requires known dimension



- Scale
- Select Objects
- Basepoint
- Snap to endpoints
- Enter new length

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Lesson 02

Zoning Sheets
- Assignment
- Sample 1
- Sample 2
- Sample 3
- Sample 4

Autocad 3D Modeling
- Extrude 2D to 3D
- Standard 3D Views
- Vpoint 1,2,3
- Solids & Boolean Operations

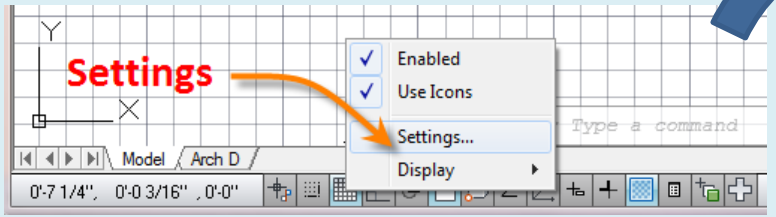
FLATSHOT
- 3D to 2D dwgs
- Insert & Rename
- Scale Blocks

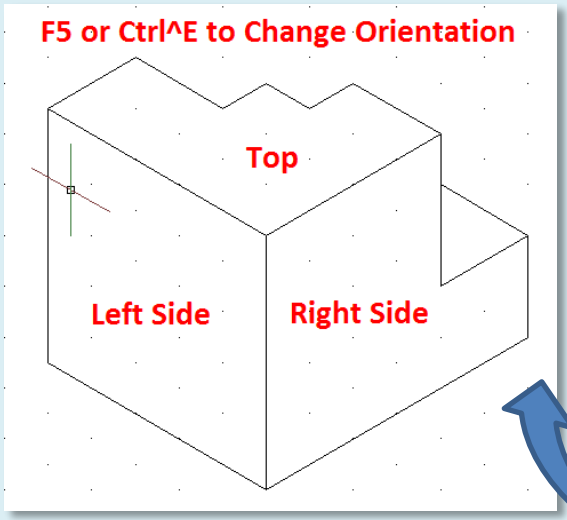
2D ISOMETRIC
- **Grid and Snap Settings**

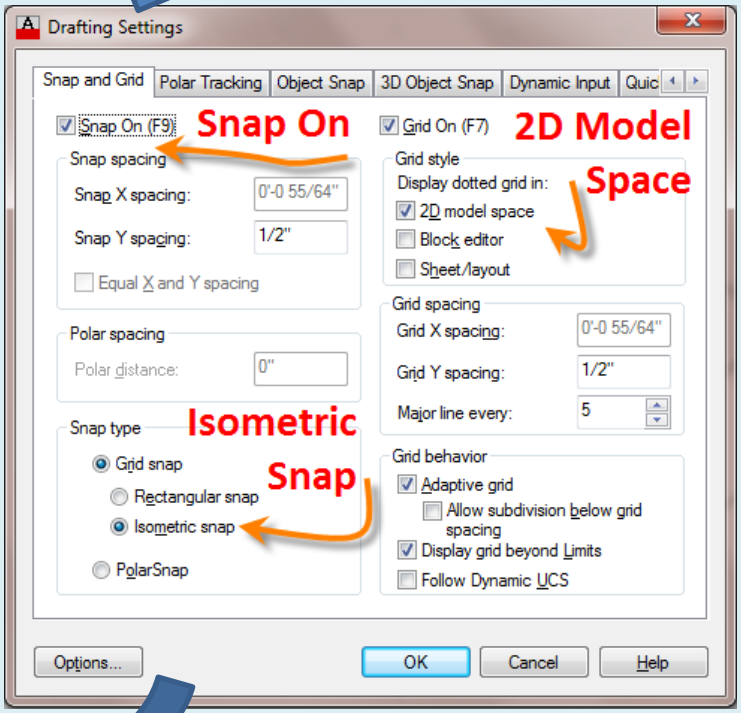
Wrap up

BTECH 3
New York City College of Technology

Drafting a 2D Isometric : Setting Grid & Snap







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Lesson 02 – Wrap up

- **Assignment**
- ***Develop isometric zoning diagrams***
- ***Extrude***
- ***Vpoint***
- ***Boolean Operations***
  - ***Union***
  - ***Subtract***
  - ***Intersect***
- ***Flatshot***
  - ***Obscure line – hidden***
  - ***Rename Blocks***
  - ***Scale Blocks accurately***
- ***2D Isometric drawings***
  - ***Grid & Snap***